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## NOTICE OF ALLOWANCE AND FEE(S) DUE

27365 7590 10/07/2008

SEAGATE TECHNOLOGY LLC C/O WESTMAN  
CHAMPLIN & KELLY, P.A.  
SUITE 1400  
900 SECOND AVENUE SOUTH  
MINNEAPOLIS, MN 55402-3244

EXAMINER

RENNER, CRAIG A

ART UNIT

PAPER NUMBER

2627

DATE MAILED: 10/07/2008

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/826,022

04/16/2004

Yiren Hong

STL11554

9047

TITLE OF INVENTION: COMPOSITE BASE PLATE FOR A DISC DRIVE HAVING AN INTEGRAL PRINTED CIRCUIT BOARD

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	01/07/2009

**THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.**

**THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.**

### HOW TO REPLY TO THIS NOTICE:

#### I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.**

# **PART B - FEE(S) TRANSMITTAL**

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE  
Commissioner for Patents  
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Alexandria, Virginia 22313-1450  
or Fax (571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

27365 7590 10/07/2008

SEAGATE TECHNOLOGY LLC C/O WESTMAN  
CHAMPLIN & KELLY, P.A.  
SUITE 1400  
900 SECOND AVENUE SOUTH  
MINNEAPOLIS, MN 55402-3244

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

## **Certificate of Mailing or Transmission**

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/826,022 04/16/2004 Yiren Hong STL11554 9047

TITLE OF INVENTION: COMPOSITE BASE PLATE FOR A DISC DRIVE HAVING AN INTEGRAL PRINTED CIRCUIT BOARD

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
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nonprovisional NO \$1510 \$300 \$0 \$1810 01/07/2009

EXAMINER	ART UNIT	CLASS-SUBCLASS
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RENNER, CRAIG A 2627 360-097010

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 \_\_\_\_\_
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 \_\_\_\_\_
- 3 \_\_\_\_\_

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies \_\_\_\_\_

4b. Payment of Fee(s); (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number \_\_\_\_\_ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature \_\_\_\_\_

Date \_\_\_\_\_

Typed or printed name \_\_\_\_\_

Registration No. \_\_\_\_\_

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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10/826,022	04/16/2004	Yiren Hong	STL11554	9047
27365	7590	10/07/2008	EXAMINER	
SEAGATE TECHNOLOGY LLC C/O WESTMAN CHAMPLIN & KELLY, P.A. SUITE 1400 900 SECOND AVENUE SOUTH MINNEAPOLIS, MN 55402-3244			RENNER, CRAIG A	
			ART UNIT	PAPER NUMBER
			2627	
			DATE MAILED: 10/07/2008	

## Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 422 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 422 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/826,022	HONG ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Craig A. Renner	2627	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to paper(s) filed 12 September 2008.
2. ☒ The allowed claim(s) is/are 1,3-8,11,12,17,18,21,22 and 26-32 (renumbered 1,2,10,3,4,15,16,18,19,11,5,17,20,6,12,13,7,8,14 and 9, respectively).
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of the:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.  
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached  
1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.  
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.  
**Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |  |
|--|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application                      |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date _____    | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                    |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material | 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance              |
|  | 9. <input type="checkbox"/> Other _____.   |

/Craig A. Renner/  
Primary Examiner, Art Unit 2627

Art Unit: 2627

1. An examiner's amendment to the record appears below. The amendment is merely clarifying in nature and does not affect the scope of the claimed invention. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

2. The application has been amended as follows:

IN THE CLAIMS:

The claim listing has been amended to read as follows:

1. (Previously presented) A composite structure comprising:

a base having a first side and a second side, the first side having a patterned surface structure including at least one aperture extending through the base between the first side and the second side;

a printed circuit board including at least one raised circuit component elevated from a board portion of the printed circuit board and the at least one raised circuit component extending into the at least one aperture and forming a space between an edge surface of the at least one aperture and the at least one raised circuit component;

an adhesive portion in the at least one aperture that extends between the first and second sides of the base and between the edge surface of the at least one aperture and the at least one raised circuit component to fill the space between the at least one

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raised circuit component and the edge surface of the at least one aperture of the base;  
and

an adhesive layer between the base and the board portion of the printed circuit board bonding the base to the printed circuit board.

2. (Canceled).

3. (Previously presented) The structure according to claim 1, wherein the adhesive layer between the base and the board portion forms a first adhesive layer and comprising a second adhesive portion between the printed circuit board and a shield to connect the shield to the printed circuit board.

4. (Currently amended) A structure comprising:

a base having a first side and a second side, the first side having a patterned surface structure including at least one aperture extending through the base between the first side and the second side;

a printed circuit board including at least one raised circuit component elevated from a board portion of the printed circuit board and the at least one raised circuit component extending into the at least one aperture and forming a space between an edge surface of the at least one aperture and the at least one raised circuit component, wherein the printed circuit board has an upright connector;

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an adhesive portion in the at least one aperture that extends between the first and second sides of the base and between the edge surface of the at least one aperture and the at least one raised circuit component to fill the space between the at least one raised circuit component and the edge surface of the at least one aperture of the base; and

an adhesive portion between the upright connector and an edge surface of the base.

5. (Previously presented) The structure according to claim 1 wherein an overall thickness of the structure is less than 3.3 mm.

6. (Previously presented) The structure according to claim 5 wherein the base has a portion having a thickness of between 0.2 mm and 0.3 mm.

7. (Previously presented) A composite structure for a data storage device comprising:

a base having a first side and a second side;

a printed circuit board spaced from the base to form a gap between the printed circuit board and the base;

a shield spaced from the printed circuit board to form a gap between the printed circuit board and the shield; and

a first adhesive portion filling the gap between the printed circuit board and the base to connect the printed circuit board to the base, and

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a second adhesive portion filling the gap between the printed circuit board and the shield to connect the shield to the printed circuit board.

8. (Previously presented) The structure according to claim 7 wherein the base includes at least one aperture and the printed circuit board includes at least one circuit component extending into the at least one aperture and comprising an adhesive portion in the at least one aperture between an edge surface of the at least one aperture and the at least one circuit component.

9-10. (Canceled).

11. (Previously presented) The structure according to claim 7 wherein an overall thickness of the structure is less than 3.3 mm.

12. (Previously presented) The structure according to claim 11 wherein the base has a portion having a thickness of between 0.2 mm and 0.3 mm.

13-16. (Canceled).

17. (Currently amended) The structure according to claim 4 wherein at least one of the adhesive portions is an epoxy adhesive.



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18. (Previously presented) The structure according to claim 1 wherein the adhesive portion is an epoxy adhesive.

19-20. (Canceled).

21. (Previously presented) The composite structure of claim 8 wherein the at least one aperture extends through the base between the first side and the second side of the base.

22. (Previously presented) The composite structure of claim 7 wherein the printed circuit board includes at least one connector and comprising a third adhesive portion between an upright surface of the base and the connector.

23-25. (Canceled).

26. (Previously presented) The structure of claim 1 wherein the base includes a base portion having a base thickness of about 0.3mm or less.

27. (Previously presented) The structure of claim 4 wherein the base includes a base portion having a base thickness of about 0.3mm or less.

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28. (Previously presented) The structure of claim 4 and comprising an adhesive layer between the base and the board portion of the printed circuit board bonding the base to the printed circuit board.

29. (Previously presented) The structure of claim 1 and comprising at least one lead extending through the adhesive layer and soldered to a solder pad on the printed circuit board.

30. (Previously presented) The structure of claim 1 wherein the adhesive portion and the adhesive layer are a thermally conductive epoxy.

31. (Currently amended) The structure of claim 4 wherein ~~the~~ each adhesive portion ~~and the adhesive layer are~~ is a thermally conductive epoxy.

32. (Previously presented) The structure of claim 1 and comprising a tape seal on the at least one aperture.

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3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Craig A. Renner whose telephone number is (571) 272-7580. The examiner can normally be reached on Tuesday-Friday 9:00 AM - 7:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, A. L. Wellington can be reached on (571) 272-4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Craig A. Renner/  
Primary Examiner, Art Unit 2627

CAR